

#### REMARKS/ARGUMENTS

This paper is submitted in response to the Office Action mailed February 10, 2006. A Request for a One-Month Extension of Time under 37 CFR 1.136(a) is submitted herewith, along with the fee prescribed by 37 CFR 1.17(a)(1). This response is therefore timely, and reconsideration of the application is respectfully requested.

Claims 1-16 were examined, claims 17-48 having been withdrawn pursuant to a restriction requirement. Claims 1-16 stand rejected.

In response to the Office Action, claims 1-48 have been canceled, and new claims 49-61 have been added. As discussed below, it is respectfully submitted that new claims 49-61 define patentably over the art of record.

The principal reference cited in the Office Action is US 6,488,074 – Usui (“Usui”). As explained below, it is respectfully submitted that Usui, taken singly or in combination with the other references of record, neither teaches nor suggests the invention defined in new claims 49-61.

New independent claim 49 defines an apparatus for forming molded items from thermoplastic workpieces, comprising:

- a workpiece heating mechanism operable to heat sequentially a series of thermoplastic workpieces;

- a workpiece operation chamber;

- a workpiece manipulator operable to move each workpiece sequentially from the heating mechanism to the workpiece operation chamber; and

- a mold and plug manipulator system operable to move a series of molds and plugs sequentially to the workpiece operation chamber so as to allow each workpiece to be formed into a molded item by means of a corresponding mold and plug moved to the workpiece operation chamber in coordination with each workpiece moved into the workpiece operation chamber.

As currently understood by the Applicants, Usui discloses an apparatus for casting dental prostheses, in which a plurality of crucibles containing alloy ingots (which may be considered “workpieces” for purposes of the ensuing discussion) are moved to a container 50 by a crucible conveyor mechanism F, and they are heated in the container to melt the ingots. A plurality of rings (which may be considered “molds” for the purposes

of this discussion) are moved to the container 50 by a ring conveyor mechanism E, and the melted alloy is then cast into the rings in the container after the container is closed by a cover 60. The container 50 may thus be considered a “workpiece operation chamber.”

The invention defined in claim 49 is distinguishable over Usui in at least two important and patentable ways:

(1) The Usui device does not form molded items from thermoplastic workpieces.

Instead, it forms cast items from metal alloy workpieces. Thus, for example, the workpiece heating mechanism of Usui (casting unit H) heats metal alloy workpieces, not thermoplastic workpieces, and it is cast metal items, not molded thermoplastic items, that are formed in the workpiece operation chamber (container 50) of Usui.

(2) There is nothing in Usui to suggest the sequential movement of a series molds and corresponding plugs into the container 50 to be used therein to allow each of the workpieces to be formed into a molded item by means of a corresponding mold and plug. The cover 60 is not a molding plug; it is merely a cover to seal the container 50 during the casting process. Indeed, the casting process disclosed in Usui does not use a mold plug of the type used in the present invention, as defined in claim 49. Moreover, even if, for the sake of argument, one may consider the cover to be a “plug” (which Applicants respectfully dispute), there is nothing in Usui to suggest the conveyance or movement of a series of plugs into the container 50 to form the workpieces into molded items. There is only a single cover 60 that is moved only between an open position and a closed position.

Nothing in the other cited references, even if combined with Usui in the manner suggested by the Examiner, would teach or suggest the invention defined in claim 49. It is therefore respectfully submitted that claim 49 defines patentably over the art of record.

Claims 50-61 depend from claim 49 and further define the patentable features of the present invention, and these claims should be allowed along with independent claim 49. More specifically, and by way of example, nothing in the cited references teaches or suggests a workpiece introduction system that includes a cutter that is “operable to form [a] series of workpieces from a roll of thermoplastic material,” as defined in claim 54. Moreover, nothing in the art of record suggests a plug, as defined in claim 61, that cooperates with a corresponding mold in the combination defined in claim 49. The remaining dependent claims define with greater specificity the novel and non-obvious

apparatus of claim 49, and thus should be allowed for the reasons set forth above with respect to claim 49.

In summary, it is respectfully submitted that claims 49-61 define patentably over the references of record and should be allowed. Passage of the application to issue is therefore earnestly solicited.

Respectfully submitted,

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